

Credit risk transfer – dealing with the information gap¹

Luís D'Aguiar² and Filipa Lima³

1. Introduction

In the years just prior to the financial market turmoil that hit the world economy in the summer of 2007, credit risk transfer (CRT) instruments experienced an extraordinary growth. Market survey data published by the International Swaps and Derivatives Association (ISDA) show that, for instance, the notional amount outstanding of credit default swaps (CDSs) at end-June 2007 (US\$ 45.5 trillion) was more than eight times larger than at end-June 2004, with an average annual growth rate well above 100%. Another type of CRT instrument, collateralised debt obligations (CDOs), reveal a similar pattern: data disclosed by the Securities Industry and Financial Markets Association (SIFMA) on global CDO issuance in the first half of 2007 was five times that of the same period in 2004, with the average annual growth rate above 70%. Impressive as they may look, these figures are probably merely hinting at the true significance of global CRT activity, which remains largely uncovered by official statistics, in spite of its likely relevance in relation to the efficiency and stability of financial systems, and do not necessarily depict the amount of credit risk effectively transferred outside the banking system. Still, it seems safe to say that the widespread use of CRT instruments has profoundly changed the global financial landscape and was central to the recent credit market turbulence.

The paucity of suitable statistical data about these products, together with their intrinsic complexity and opaqueness, give reason for the ongoing efforts by financial sector authorities worldwide, including international standard setters, to monitor CRT activity more closely and to mitigate the information gap associated with the more complex CRT products – an issue that combines, on the one hand, limited or no access to relevant information by some market participants and, on the other hand, the ability of market players to fully understand the information provided.

We argue that the way forward to build knowledge in this field should not necessarily rely only on gathering new information on CRT activities or on restraining these activities through heavier regulation, but rather on exploring the largely unused statistical potential of already existing data sources – including, in particular, administrative micro data. They are certainly not *the* solution, but they should be part of it.

2. CRT can take different forms

Banks need to manage the credit risk exposure inherent in their portfolios as well as in individual transactions. Credit risk may be defined as the possibility that the value of a loan will decrease due to a change in the borrower's ability to make payments, whether that change is an actual default or a change in the borrower's probability of default. For a variety

¹ The analyses, opinions and findings of this paper represent the views of the authors, which are not necessarily those of the Banco de Portugal.

² Banco de Portugal, Statistics Department (e-mail: laguair@bportugal.pt).

³ Banco de Portugal, Statistics Department (e-mail: slima@bportugal.pt).

of reasons (see Section 3 below), banks have an incentive to transfer those risks to other parties more willing or able to assume them and earn the associated return. Transferring credit risk by way of, for instance, financial guarantees, surety bonds or credit insurance is a well-established feature of financial systems. The same may apply to loan syndications and traditional (true sale) securitisations, which have been used by banks for many years for similar purposes and are, by and large, the principal way Portuguese banks use to shed credit risk (see Section 3). At least in principle, those CRT instruments should be easily tackled, contrary to more innovative products – namely credit derivatives and structured products such as asset-backed securities (ABS) and CDOs – whose risks and valuation are difficult for most investors and rating agencies to assess. Recent growth of CRT activity has been mostly concentrated in these more complex instruments, which justify a brief reference to some of their central features.

Credit derivatives

Unlike techniques that involve the transfer of loans, credit derivatives isolate credit risk from the underlying loan and allow it to be traded. A liquid market for credit derivatives did not emerge until July 1999, when the ISDA succeeded in establishing further standardisation for these instruments. CDSs, total return swaps and credit-linked notes are commonly transacted forms of credit derivatives, particularly with loans as underlying.

Asset-backed securities

ABS are bonds or notes backed by non-mortgage loans. The financial institutions that originate those loans turn them into marketable securities through (true sale) securitisations, whereby pools of loans are sold to a special purpose vehicle (SPV), whose sole function is to buy such assets in order to securitise them. The securities sold generally benefit from some sort of credit enhancement to make them more attractive to investors. SIFMA estimates that more than US\$ 2.6 trillion of ABS were issued from 1985 to 2003.

Collateralised debt obligations

CDOs are another type of structured product, similar to ABS. In a basic CDO transaction, the reference credits are sold to an SPV, which then issues a variety of securities with differing degrees of repayment risk, to appeal to investors with different risk appetites. Typically, the SPV will issue three layers of securities: the first comprises the senior tranches and is rated from A to AAA; the second receives ratings from B to BBB; and the third layer (the equity tranche) retains most of the credit risk and is usually unrated. The originator of the CDO usually retains some of the equity tranche to signal its confidence in the transaction. Included under the generic designation of “CDO” are a great variety of financial products, corresponding to, for example:

- (i) the aim of the transaction (balance sheet CDOs; arbitrage CDOs)
- (ii) the way in which the credit risk is transferred – true sale (cash CDO) or synthetic securitisation (synthetic CDO)
- (iii) the composition of the underlying portfolio – bank loans (CLOs), bonds (CBOs), CDSs (single-tranche CDOs) and structured products (“CDOs-squared”; ABS CDOs; etc).

3. Implications of banks' involvement in CRT activities

Credit risk shedding and/or risk-taking are typically the driving force behind banks' involvement in CRT activities. The motivations behind securitisation operations will be given particular attention in this article due to the prominent role of these types of operations in the Portuguese financial market.

The benefits of securitisation include, inter alia:

- realising the value of the assets, particularly where a business is unable to raise money against it
- increasing liquidity, by means of the influx of cash brought about through the securitisation
- transferring the risk element in the underlying assets to the investors as the assets are sold to the SPV
- removing the assets from the balance sheet of the originator for accountancy and regulatory purposes, allowing, for example, the freeing up of regulatory capital.

Additionally, there could be possible benefits of using an offshore structure, derived from the flexibility, ease of administration and tax advantages provided by the relevant offshore legislation.

Furthermore, this phenomenon is not neutral in terms of monetary policy. According to Stark (2007), the emergence of securitisation and credit derivatives are likely to have led to a change in bank lending dynamics, possibly leading to an increase in bank loan supply. Hence, the advances in CRT instruments, by expanding the breadth of the credit markets, are likely to have reduced the effectiveness of the bank lending channel in normal circumstances.

4. Collecting the data

National central banks have at their disposal a huge amount of financial data. However, recent developments have proved that there is an urgent need for initiatives to improve the availability of information on credit markets and to overcome possible statistical shortcomings. These initiatives should be twofold: allowing for a better understanding of the past and, more importantly, providing statisticians and analysts with inputs to prevent similar situations and/or to better tackle them beforehand.

For these purposes, the availability of databases on micro data, covering different areas of the economy and the financial markets, which allow for cross-checking of the data, seems to be of high importance.

In particular, micro data as a set of administrative individual registers present an enormous potential for statistical use. In general, this approach is technically easy to implement with relatively low associated costs.

Another significant advantage of such databases is a very good coverage of the population (in most cases). A single database may produce inputs, thus augmenting the uses of administrative data sources. Registration data are useful in building and maintaining lists of units as the starting points for surveys. Transaction data can be used for:

- (i) new statistical products
- (ii) quality control when cross-checking with other statistics
- (iii) additional details of already existing statistics.

The Banco de Portugal has been following this approach for some time, with proven results, and has also been exploring the statistical potential of various sources of information, including a number of different administrative databases.

Securities Statistics Integrated System (SIET)

Since 1999, the Statistics Department has been managing this security-by-security (s-b-s) and investor-by-investor database. SIET has the advantage of gathering, in a single database, all the information concerning securities (excluding financial derivatives), which is then used in the compilation of various statistics for which the Banco de Portugal is responsible. Both stocks and transactions are collected on a monthly basis. Information is acquired by ISIN code and is then classified according to ESA 95 (European System of Accounts) financial instrument classification. Structured instruments are not identified separately; however, the subcomponents of these instruments that take the form of securities are individually reported to our s-b-s system. The database contains registers of around 45,000 shares, 75,000 debt securities and 5,000 mutual fund shares/units. The number of entities (issuers and investors) is over 154,000. On a monthly basis, we process over 200,000 registers regarding portfolio data. The usefulness of having such a database was apparent following the failure of Lehman Brothers, namely so as to assess the exposure of Portuguese entities to the bankrupt firm. In the near future, information from the Centralised Securities Database (CSDB) managed by the European System of Central Banks (ESCB) will be integrated with our s-b-s system, replacing data currently obtained from commercial data providers, thus improving quality and coverage. Another possible future enhancement concerns the inclusion of financial derivative instruments.

Central Credit Register (CCR)

The CCR was created in 1978 by the Banco de Portugal with the purpose of providing credit-related information to the participants and helping them in their assessment of the risks attached to extending credit. In 1999, it came under the responsibility of the Statistics Department. This allowed for new uses of what was formerly a purely administrative database, such as:

- (i) statistics (business register, data quality control, complementary data, and separate statistical outputs)
- (ii) banking supervision and regulation (assessment of credit risk and concentration of risk exposure both at micro and macro level; improvement of on-site inspection practices, etc)
- (iii) economic research and policy (structural analysis, monetary policy, etc).

Loans are classified according to a set of predefined variables which harmonise risk assessment requirements and statistical criteria. Monthly credit balances are reported for each individual borrower (mostly private individuals and corporations). The reporting threshold is very low – a minimum of €50 per credit balance. In terms of data coverage as a percentage of adults we rank first, with 76.4%, followed by China (58.8%), according to *Doing Business* (World Bank (2009)).

We have recently introduced major changes to this database, which relate to the reporting of additional variables: the type and purpose of the loan; the status of the loan; the type of liability of the borrower; the original and residual maturity; the number of days the loan is overdue (in case of default); the currency; the country where the loan was granted (to cover loans granted to residents by foreign branches of Portuguese credit institutions); the type and value of the collateral or guarantee securing the loan (where applicable); and the value of monthly repayments (only for private individuals and certain types of loans). Special flags are

used to identify securitised loans, syndicated loans and loans used to back mortgage bonds, etc.

Simplified Corporate Information (IES)

Formally created by Decree-Law no 8/2007 of 17 January, IES allows companies to fulfil separate obligations to four public entities simultaneously through a single electronic submission. IES is the system for the electronic submission of accounting, fiscal and statistical information that companies must normally provide to the Ministry of Justice, the Ministry of Finance, Statistics Portugal and the Banco de Portugal. IES requires the submission of a comprehensive set of information, and includes a cover page, concerning the general aspects of the company and the data, and 13 annexes to be filled in with annual data. The annexes typically reflect: the different types of companies (non-financial, financial and insurance); the nature of the data (non-consolidated and consolidated); and the type of content (the company as a legal entity or each establishment of one company). With regard to the reporting of data for non-financial corporations on a non-consolidated basis, it includes the official information defined in the Chart of Accounts as well as some additional details for statistical and fiscal purposes. The Banco de Portugal requested the inclusion of a few additional details considered to be very important for balance of payments (BoP), international investment position (IIP) and financial accounts purposes. Prior to the implementation of IES, we received data from around 15,000 non-financial corporations covering around 600 items; we currently receive data from nearly all companies (financial and non-financial) operating in Portugal (around 300,000) covering over 1,800 items.

Prudential supervision data

The Banco de Portugal has a long-standing tradition of fruitful cooperation between the Statistics and the Banking Supervision Departments. Individual data are easily interchanged for quality and consistency purposes; in particular, the Statistics Department has access to the accounting data submitted for supervisory purposes, which allows the compilation of statistics that, besides complementing the existing ones (including statistics on non-monetary financial institutions) serve as an additional means of cross-checking their internal consistency.

In addition to exploring the statistical potential of available administrative databases, institutional cooperation among the relevant supervisory authorities both at national and international level plays a pivotal role in this context.

In July 2007, the Ministry of Finance of Portugal, the Banco de Portugal, the Portuguese Insurance and Pension Funds Supervisory Authority and the Portuguese Securities Market Commission signed a Memorandum of Understanding (MoU) for the creation of the National Financial Stability Committee. This forum represents a policy commitment at the highest level for cooperation among the relevant supervisory authorities in order to improve financial supervision. It aims to face the challenges presented by financial markets, namely financial innovation and rising financial integration, in order to reap the corresponding benefits. The MoU promotes the activation of cooperation mechanisms should a crisis with a systemic impact over the national financial market occur; the mechanisms include exchanges of information, an assessment of the nature and impact of the crisis, and the corresponding appropriate and coordinated action to be taken. The committee is essential in the coordination with other European financial supervisory authorities in the context of the MoU on EU cross-border financial stability. It is expected that such initiatives will enhance our level of preparedness and allow us to deal more efficiently with possible future financial crises.

Finally, at European level, several noteworthy initiatives have been put forward by the ECB/ESCB:

- enhancing the ESCB statistical framework (eg new regulations on investment funds and financial vehicle corporations engaged in securitisation transactions; changes to existing regulations to cope with the lack of information on securitisation, etc)
- tailored use/enhancement of internal databases
- supporting enhancements of BIS over-the-counter (OTC) derivatives data
- pooling national supervisory data
- supporting market initiatives for greater disclosure
- use of commercial data and clearing house data.

5. Concluding remarks

The US subprime crisis of the summer of 2007 and the ensuing financial turmoil highlighted a generalised lack of relevant information as regards CRT activities; financial authorities worldwide were unprepared to deal with their complexity, extensiveness and implications.

Moreover, the complex and opaque nature inherent to CRT instruments together with prospects for high returns, under a set of very favourable circumstances, led to a demise of responsibility – due to a lack of incentive – to adequately monitor the borrower’s ability to make payments, particularly on the part of the loan originators. Concomitantly, there was a blind reliance on ratings as the sole criterion for assessing risk on the investor’s side, which favoured the widespread use of these products.

We are facing a global challenge that demands a global response. This, in turn, calls for a stronger commitment at the highest level for cooperation among financial authorities both at national and international level, considering the interlinkages between financial sectors. The key elements in this strategy are, inter alia:

- (i) the exchange of information among the relevant partners
- (ii) the definition of coordination mechanisms, setting up practical procedures for the involvement of all relevant parties in a crisis situation based on the existing legal responsibilities, and building on existing networks of authorities.

It is our belief that such a commitment will put financial authorities in a better position to face the challenges brought about by financial markets, namely CRT-related financial innovation, so that we can fully reap their benefits.

References

Banco de Portugal (2008): *Central credit register*, booklet no 5.

——— (2008): Supplements to the Statistical Bulletin: *2/2008: Securities statistics – integrated system features and main results*; and *1/2008: Simplified reporting – inclusion of the simplified corporate information in the statistics on non-financial corporations from the central balance-sheet database*.

Cousseran, O and I Rahmouni (2005): “The CDO market – functioning and implications in terms of financial stability”, Banque de France, *Financial Stability Review*, no 6, June.

European Central Bank (2004): "Credit risk transfer by EU banks: activities, risks and risk management", May.

Joint Forum of the Bank for International Settlements (2008): "Credit risk transfer – developments from 2005 to 2007", July.

JPMorgan Chase (1999): *The JP Morgan guide to credit derivatives, with contributions from the RiskMetrics Group*, published by Risk.

Poloni, P and J Reynaud (2008): "Possible statistical follow-up of the turmoil in financial markets", European Central Bank, March.

Stark, J (2007): "The monetary policy transmission mechanism: in light of recent changes in banking and financial innovation", speech delivered at the conference on "The implications of changes in banking and financing on the monetary policy transmission mechanism", Frankfurt am Main, November.